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VETERINARY JOURNAL

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Editorials

THE WHOLE TIME VETERINARY OFFICIAL.

WE make no excuse for drawing the attention of our readers, especially students and young graduates, who intend to make Official Inspection work their future, to an instructive an interesting article on pages 155 *et seq.*, on " Hints for Veterinary Inspectors," by Mr. W. Jackson Young, F.R.C.V.S., D.V.S.M., whose long experience and high position at the Ministry of Agriculture makes him especially qualified to give advice in this direction.

Upon reading the hints given one cannot help but be struck with the facts that tact in dealing with owners and thoroughness in the application of details form two of the most essential qualifications in the character of an aspirant to successful and permanent employment by the Ministry of Agriculture and Fisheries. Not only, too, must he know the Clauses dealing with the Contagious Diseases of Animals' Act but he must be very particular (and yet to some extent broad-minded) in their interpretation.

The hints given in the article alluded to show full well that the author is not merely an armchair official but that he has had great experience in Veterinary Sanitary Science and Police work under the conditions in which it has actually to be applied in the field.

Practical articles of this kind are of especial value, as stated above, to our younger graduates, and to senior students who are framing out the course they desire to follow after qualifying.

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HUMANITY TO ANIMALS AND THE HELP NEEDED FROM THE VETERINARY PROFESSION.

THE discussion, instigated by the Royal Society for the Prevention of Cruelty to Animals, on the Veterinary treatment of animals of the poor, which is taking place at the present time before each branch of the National Veterinary Association, is open evidence of the wish of the veterinary profession to assist in the carrying out of acts of humanity to animals; and the need for skilled veterinary help in cases of this kind is shown by articles which appear in this month's issue of the VETERINARY JOURNAL by Mrs. Lamb, M.R.C.V.S., a lady graduate who is practising in a very poor district of Ireland, and Mr. R. V. Isherwood, B.A. (Oxon), a senior student in the Royal Veterinary College, who has recently visited Morocco. In each article the great need for skilled veterinary advice and help is strongly emphasised, and it appears to be almost as great in the one country as the other, although perhaps in a slightly different way; and the philanthropic "Richard Martin Society" is much to be commended for the good work which is being done under its auspices for sick animals of the poor—and especially in that it has recognised that the veterinary diagnosis and treatment parts of the work can only be carried out efficiently by a veterinary surgeon. Although both the Irish Free State and Morocco are out of the jurisdiction of the English laws regarding cruelty no countries are beyond the pale when the question of humanity to animals is concerned —and it behoves us as a profession to recognise the fact that we, of all others, should take a leading part on every necessary occasion, in all questions connected with cruelty which is inflicted upon animals, whether intentionally or merely from careless want of thought.

We draw, too, the attention of our readers to an article by Professor Max Müller, the Chief Veterinary Inspector of the Munich Abattoir, on the application of Electricity for rendering cattle and other food animals unconscious before any actual cutting is done. The method has been carefully reasoned out and practically applied by Professor Müller and Herr Weinberg, an Engineer, and is now on a more extended trial at other abattoirs in Germany. It is an instance of the value of collaboration, the veterinarian taking his share of the work and the engineer his part—working together for the furtherance of humanity towards animals.

General Articles

NOTES ON THE EARLY HISTORY OF THE VETERINARY SURGEON IN ENGLAND.*

By FRED BULLOCK, LL.D.,
Registrar of the Royal College of Veterinary Surgeons.

THE field of veterinary history has been so thoroughly garnered by Major-General Sir Frederick Smith as to make it difficult to do more than glean here and there. It was my privilege to be associated to some slight extent with his " Early History of Veterinary Literature and its British Development," and that experience gave me—who am neither veterinary surgeon nor historian—an interest in the subject. In the following pages I have constantly referred to Sir Frederick Smith's work.

When the Latin author Columella wrote his " De Re Rustica " about the time of the second invasion of Britain, he described the medicine of animals under the new term " medicina veterinaria," but makes no mention of the shoeing of horses. By A.D. 110, however, the Roman Army had a *veterinarium*, with a forge attached to it. Its place in the camp is described by Hyginus Gromaticus (*Liber de Munitionibus Castrorum*, 21, §22). It was a hospital for sick and wounded horses and other animals. If, however, before the Romans left Britain in A.D. 400, " medicina veterinaria " was practised in this country, no evidence of it remains ; nor did the " veterinarius " or veterinary surgeon, if he existed here in Roman days, answer to that name again for 1400 years.

The Ancient Laws of Wales show that in the tenth century such equine diseases as staggers, strangles, farcy, worms and restiveness, such cattle diseases as scabies, rot and redwater were known. The horse is to be warranted against the staggers for three dew-falls, against the black-strangles for three moons, and against the farcy for one year. In the case of mange the purchaser must swear that he put the animal on a clean pasture and in a stable in which there had not been mangy animals for seven years. One need not suggest that it was a veterinary surgeon who would be called in to give his certificate of soundness in the tenth century, but when the claim under the warranty was made some expert person would doubtless be consulted to settle whether the disease was the one warranted against. It was

* A paper read (January 2nd, 1929) before the Royal Society of Medicine (History of Medicine Section). Published by permission of the Editor of the Proceedings of the Royal Society of Medicine.

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also specified in the Laws that payment must be made to one who gives a remedy *to a man or to an animal.* This seems to show that human and animal medicine were the work of the same leech.

In the Anglo-Saxon Leechdoms, which contain a number of veterinary references, there is no separation of them from the general body of medical matter.

After the conquest all is dark for a while, but the growth of chivalry with the Crusades must certainly have given a great impetus to equine medicine and surgery. The chevalier or knight was the fully-equipped feudal tenant on horseback. He made it his pride that he could shoe his horse and treat it in disease. It is in this period of the heyday of chivalry (1200 to 1500) that the doctor of horses separated off as a specialist from the general practitioner, much as the surgeon and dentist separated off. We now meet with a new term to describe the doctor of horses, namely, *Marshal,* his profession being that of *Marshalsy.* All the great houses of the nobles would certainly have their marshals and smiths as part of their domestic establishment.

The origin of this word is Teutonic, Old High German *Marah-skalh,* the "horse-groom," which became in Italian *mariscalco, maliscalco,* and *maniscalco,* and in Old French *mareschal,* from which we get the English *marshal.* This word ousted the Latin *veterinarius* for several centuries. Doubtless it came into use during the German invasion, grew into importance during the Crusades, and secured a new vogue under the influence of Jordanus Ruffus, the Master Marshal of Frederick II, the *Stupor Mundi.* This great German Emperor, King of Sicily from 1216 to 1250, a student of zoology and of medicine, the most accomplished sovereign of the Middle Ages, was keenly interested in veterinary medicine, and encouraged his master marshal to produce a work on this subject. So Ruffus, himself styled *imperialis marescallus major,* wrote, with Frederick's help, a treatise commencing "Izi cominza lu libru di manischalchia compostu do lu maestro Giordano Ruffo . . . mariscalco del imperatore Federicu." This work had an immense vogue. It was copied and translated into many languages, and we possess in the British Museum at least three different mediæval manuscript copies, viz. Harl. 1637, 3535, and 3772. The *veterinarii* of Rome now became *mariscalci,* and *ars veterinaria* became *marescalcia.*

Very soon we meet with "marshals" in England. The earliest reference seems to be in Wace's *Chronicle,* 1330, but the master marshals there referred to appear to be no more than horse-grooms. In 1356, however, the master marshals of London obtained an ordinance from the Mayor and Aldermen, giving them authority to rule the craft. Riley, in his translation of this Ordinance, writes "Master Farriers"

for " les bons genes mestres mareschals," but as the word " marshals " was already in full use, it seems proper to retain it here. The Ordinance itself shows, too, that there was already a distinction between the craft of shoeing, and the " mestier " of " marchalcye des chivaux."

It is interesting to note in passing that the good folks of the trade agreed with the Masters " that they will well and loyally advise all those who shall ask counsel of them as well in the purchase of horses as in their cure . . . and that no one of the said trade shall commence or undertake any great cure if he does not reasonably see at the beginning that the same cure will be brought to a good end ; and that if any person shall undertake any great cure and shall fear in his conscience that the same will take a disastrous turn, then in such case he shall come before the masters and other wise men of the said trade to ask their counsel and aid for the saving of the horse and for the profit of him to whom the horse belongs and the honour of the said trade." . . . " And if the contrary be found or it shall be proved against any person that through negligence he has let such horse perish, then he shall be accused thereof before the Mayor and Aldermen and be punished at their discretion in the way of making restitution for such horse to the person to whom the same belongs."

The rule as to consultations in difficult cases was similar to that found in the contemporary Surgeons' Gild, but the surgeons did not have to make restitution for the patients they lost ! Those who took up animal surgery found this great obstacle always before them, and to-day the progress of veterinary medicine is handicapped by the fact that the surgeon is, as a rule, not allowed to treat a case unless it is economically worth treating. On the other hand, there have been those who have been thankful that their patients had no soul to be saved, saying, " For if they had, the Lord have mercy on us all ! "

Shortly after the Marshals' Ordinance of 1356, we find a case in the Year Books where a marshal was sued for negligence in treating a horse, by reason of which the horse died.[1] Again, in 1441, we find the record of a writ against R. Mareshall for that he " assuma sur lui a Londres a curer un cheval d'un certein maladie et qu'il adeo negligenter et improvide imposuit medicinas suas, etc., quod equum, etc., interfecit."[2]

In an earlier case, brought in 1374, against a surgeon with the ominous name of J. Mort, who had, it was alleged, negligently treated an injured hand, it was argued, " If I deliver my horse to a farrier to shoe, and if he pricks my horse, I shall have a writ of trespass against him, or if my horse is wounded by being pricked with a nail, and I deliver him to a marshal to cure, and by his negligent treatment my horse is maimed, I shall have a writ on the matter."

It is clear, therefore, that at this date, 1374, there is a distinction between the farrier or smith who shoes the horse and the marshal who treats the horse for injuries.

The name *Marshal* for the doctor of horses, and *marshalcy* for his profession, persisted certainly until the eighteenth century. The *New English Dictionary* gives examples from 1389 and 1430, and one from 1506 in the Lord Treasurer's Accounts, Scotland, shows its use as a verb: " Item, to deif Andro, that marshalit foure horse to the King."

That the marshals were of considerable importance in the life of the City is evident from the precept issued by the Mayor and Aldermen of London in 1431, directing the sheriffs that they must not summon any " marescallos equorum " to serve on juries, except in cases of urgent necessity.

At this period, the fifteenth century, there were in circulation a number of treatises on Marshalsy. In Mrs. Singer's list of Medical MSS. there are several in Latin, French and English. The following titles in English are the most interesting for our present purpose :—

British Museum. Harl. 6398, the Boke of Marchalsi.

Cambridge (219) Dd. iv. 44, " This is the marchalcie of Piers Moritz."

Oxford, Ball. Coll. Cod. 354 (vii) " The Book of merchalcie or Treatise on the breaking and managing of horses with medicines and modes of treating them in illness."

Oxford, 8608 (1697 cat.) " The book of merchalsy for curing horses of maladies."

Harl. 6398 is a copy of the same work as Harl. 5086, and these appear to be the earliest English MSS. in which the word " marshalsy " occurs. The work itself is analysed by General Smith in Vol. I of his *History* and judged to be of poor quality, not comparable to that of Jordanus Ruffus.

FitzHerbert, who wrote a celebrated *Boke of Husbandrie* (*circa* 1523), described the veterinary practitioner of his day as " horse-leach," " he that taketh upon him to cure and mend all manner of diseases and soraunces that horses have," but he does not seem to have had a very good opinion of him, or for that matter of the contemporary apothecary. He himself writes well on the diseases of horses, cattle and sheep, and was the first to ascribe liver fluke to the presence of snails in the pastures.

Henry VIII, during whose reign several Acts were passed prohibiting the export of horses, and providing for the better breeding of horses, brought into the country, in order to take charge of the Royal Studs, the famous Italian master marshal Hannibal, spoken of for centuries after as a great horse leech. As serjeant farrier he

would have on occasion to assist the serjeant surgeon at the gruesome State punishment by mutilation as provided for by Act 33 Henry VIII, c. 12 (1541).

Under Elizabeth we know that Martin Hollyman or Alman served as serjeant farrier, being in charge of the studs at St. Albans, and Richard Snape as yeoman farrier.[3] In this reign Thomas Blundeville pubished his *Fower chiefest Offices of Horsemanshippe* (1565), but does not speak of marshals, describing the practitioner as " Keper and Ferrer." Neither does he use the word " veterinary " though the work of Vegetius, *De arte veterinariæ sive mulomedicinæ*, had been published at Basel in 1528. Blundeville made use of some of the old English treatises in MS. to which we have referred and borrowed a good deal of information from the aforesaid Martin Alman, whom he describes as " Chief Ferrer to the Queen's Majesty," and " the most skilful ferrer that I know in all England." That " ferrer " was used by Blundeville to mean a general practitioner in veterinary medicine is clear from the account of diseases which the ferrer is expected to treat, and from the fact that he still makes a distinction between the smith who shod horses and the ferrer who treats them for diseases and injuries. But Martin Alman is described in the Accounts of the Progresses and Public Processions of Elizabeth (1559-1569) as "Marshall Ferrer," an account of his for " curing and dressing the Queen's horses " being listed. T. Clifford in his *Schoole for Horsemanshippe* (1585), speaks of that " famous Marshal Martine Alman," and the Duke of Newcastle in his great work of horsemanship (1667), calls him " Prime Marshal to Queen Elizabeth, an excellent Farrier." In the Accounts of the Reign of Charles I[4] is a bill of one of His Majesty's farriers, for " marshalling His Majesty's Hunting Horses for the year 1626," but by now the title " Farrier " was ousting that of " Marshal."

Our military annals show that in 1591 the " skilful Ferrar " who could judge of lameness and soundness was needed by the Muster Masters who conscripted for the army.[5] In the famous law case of Powtuary *v.* Walton (1597) it was laid down that " si un farrier assume sur lui a curer mon cheval que est gravelled en ses pieds, & puis ita negligenter et improvide heald le dit cheval que ceo morust " there will be an action for negligence. Nevertheless, the " Marshal " does not quite disappear for another century.[6] In 1678 Sir W. Hope published his *Parfait Mareshal or compleat Farrier*, and in 1639 Thomas De Grey in his *Complete Horseman* speaks of the " skilful ferrier or marshal " as being one most expert in horseleech craft, as distinguished from the " empyreticall horse leach." Even as late as 1720 Gibson in his *Farrier's Guide* still speaks of marshals. Only once in this period do we meet with the term " Veterinarian," and that is when Sir

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Thomas Browne compares " common farriers " with " good veterinarians " (*Pseudodoxia Epidemica*, 1646).

It is clear that the veterinary surgeon of this period was both shoeing-smith and surgeon. Hexam (1637) describes the duties of the army farrier as " to drench and lett bloude the horse of the troupe, and alwaies, either upon a march or in quarter, to have in readiness his buggett of tools, horse shoes and nailes, whensoever he shall be called upon by his officers, or when any gentleman of the troupe shall have use of him, and for this reason that he must duly attend upon the Troupe he is freed from other duties and hath a greater paye than an ordinary horseman."[7]

In 1674 the Master, Wardens and Fellowship of the Craft and Mystery of Farriers of London secured a charter from Charles II on the ground that their " Art and trade is of great antiquity and of great use and benefit to our subjects for preserving horses, and that divers inexpert and unskilful persons . . . have taken upon them to practise and have destroyed many horses " . . . The Charter established the Company of Farriers of London, with rules similar to those for barber surgeons. Power was given to the company, under certain safeguards, to visit shops, cellars and stables and to search for any defective works, medicines and ingredients used, and to take action against offenders. Andrew Snape (senior), serjeant farrier to Charles II, was in 1675 Master of the Company. He is also described in the State Papers as " Marshal Ferrier." His son Andrew, also a member of the Farriers' Company, who claimed that his family had occupied the position of farrier to the King for 200 years, was the author of an elaborate *Anatomy of an Horse* (1683), the first work of its kind in English.

During the eighteenth century we find farriers treating horses, and cowleeches and cattle doctors treating cattle, sheep and pigs. They all, no doubt, were " hereditary " doctors, with recipes handed down from father to son, and they probably also made use of the wretched books published by Gervase Markham and his imitators. But in this century a number of medical men and others gave some study to the subject, and wrote books mainly on the diseases of horses, though the cattle plague of 1714 and 1745 brought out a few writers on diseases of cattle, e.g., T. Bates, F.R.S., 1717, Cromwell Mortimer, M.D., 1745, Richard Brocklesbury, M.D., 1746, E. Litton, 1750, D. P. Layard, F.R.S., 1757. The most important work was probably Sir William Hope's translation of Solleysel's *Parfait Mareschal* at the beginning of the century, in which, by the way, Hope described himself as a lover of marshalry and horsemanship.

Those who wrote on the diseases of horses usually spoke of the

subject as farriery, their books being entitled as a rule " The Gentleman's Farriery." Among these we may note John Wood, who though he claimed " a natural genius for farriery," was not a member of the Farriers' Company, and was very ignorant of the subject. He is noteworthy, however, for having in 1758 published a proposal to establish a hospital for horses for the public benefit. Among the subscribers to his book I find, in addition to the names of five London farriers, the name of Sergeant Surgeon Ranby. Wood's proposal does not appear to have matured. The Farriers' Company was, however, like the College of Physicians at this time, more interested in keeping their circle closed and the entrance narrow, than in enlarging it, allowing the introduction of new men with new ideas. This is shown by their treatment of Wm. Osmer, a surgeon who, with his brother, " undertook the cure of horses in the various complaints, and having them shod in the proper manner." He declares in his " Treatise on the Diseases and Lameness of Horses " (1759) that his intention is to extricate the science of farriery from the hands of the ignorant and illiterate. Having issued some chapters of his book dealing with the foot and shoeing, to show the utility of his work, he says it was " tried and condemned in an august asembly as a matter of no use or benefit." Sir F. Smith[8] suggests that the august assembly was the Jockey Club. Since that volume was written I have discovered in the archives of the Farriers' Company evidence which shows that Osmer was also " tried and condemned " by the Worshipful Company of Farriers. Though Osmer was, as General Smith says, probably superior to all his predecessors in his knowledge of the cause of lameness in horses, the fact that he dared to open a forge and to shoe horses as well as to treat them for diseases caused the Court of the Company to resolve on November 10th, 1766, to prosecute him for carrying on business as a farrier in Oxford Street, not being free of the Company. They sold out £25 of their South Sea Stock to meet the costs of the suit, but on April 2nd, 1767, the Master reported to the Company that they had been non-suited for want of sufficient evidence.

It is rather a humorous situation—Osmer on his side declaring that the farriers are illiterate, hidebound, prejudiced, in favour of their antiquated methods, cruel in many of their remedies, and offering them a better way ; on the other side the Company, seeing their craft in danger, appealing to the Court, only to be treated like Demetrius the silversmith, at the hands of the town clerk of Ephesus, though with not quite so much celerity.

The attitude of the Company to Osmer was but in keeping with a decision which had been taken as early as 1762, when they received

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a request from several noblemen " and gentlemen of the First Distinction " who had " suffered by the ignorance of unskilful quacks who assume to themselves the name of Farriers " to take action against all " foreign " farriers. Those who, after warning, did not join the Company were compelled to shut up shop. But unfortunately there was no attempt on the part of the Company to institute a better system of education and training for their members, and they were apparently averse to any such move. Edward Snape, who was a member of the Company and farrier to George III, proposed, however, in 1765 to establish in London a Hippiatric Infirmary " for the instruction of pupils in the Profession," but he received no encouragement from the Company. When, in 1778, he did establish his infirmary, it was not a success.

During the latter part of the eighteenth century there appears to have been a considerable demand for veterinary knowledge, for the works of the writers of " Gentlemen's Jockeys " and " Pocket Farriers " ran into edition after edition. William Taplin, a surgeon, sailed on this tide into a fortune by selling medicine for horses by agencies all over the kingdom and advertising them by means of his books. The calls on the services of the few men who were capable of treating horses' diseases must have been very heavy. The poor horse suffered both from bad roads and bad shoeing, and once the feet were done the horse was done.

But a new era was at hand. When the attempts of Wood and Snape to establish a veterinary school fell through, the Odiham Agricultural Society in 1785 began to discuss " what were the most likely means to encourage the study of scientific farriery." In 1788 and 1789 they published an appeal in which, lamenting " that there is not yet in England any establishment adequate to the desired improvement in farriery by a regular education in that science on medical and anatomical principles," they expressed their intention, if sufficient funds were raised, to send two or more students to be trained at the Alfort School near Paris. In 1789, however, Charles Vial de Sainbel came to England and issued proposals for reading lectures on the general knowledge of the horse, and in the following year he published a " Plan for Establishing an Institution to Cultivate Veterinary Medicine."

It was this plan which ultimately displaced the project of the Odiham Society. It is well to notice that the Odiham Society speaks of " Farriery," Sainbel speaks of " Veterinary Medicine." A general meeting of subscribers to the proposed Veterinary College was held in April, 1791, when officers were elected and regulations made for the constitution and organisation of the college. The Odiham Society,

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on hearing of the actual establishment of the college, very magnanimously decided to drop their project; they sent on all their papers to the new college, and directed the subscribers to their fund to transfer their subscriptions to the new institution.

Among the most active supporters of the college was John Hunter, who was described as "the life and soul of the undertaking." He was a vice-president, and other vice-presidents included Sir Joseph Banks, P.R.S., and Sir George Baker, Bt., F.R.S. The curriculum was to cover a three years' course in anatomy, the exterior of the horse, and external diseases, materia medica, pharmacy, botany, shoeing, pathology, medicine, surgery, epizoötic diseases; and, when the pupils had completed their studies, and had undergone a public examination in the theory and practice of every branch of the veterinary art, they were to receive a certificate if they were considered as perfectly instructed therein.

In the prospectus of the school, issued in 1793, the following paragraphs occur which are believed to be from the pen of John Hunter:

> "The incompetency of the persons to whom (the veterinary art) has been abandoned, has drawn contempt upon the art itself, and few have ventured to concern themselves with a profession that seemed incapable of conferring any honour upon those that exercised it . . .
>
> "It requires the sacrifice of as many years to become a skilful veterinarian as to become a skilled physician; the acquisition of the science and the practice of each is a task sufficient to engage one man's life, and the contrary opinion is a portion of that ancient error which, while medicine was regarded as the province of the learned and the few, supposed the veterinary art on a level with the most ordinary capacities."

The English school, therefore, began under good auspices, but it soon fell on evil days. Sainbel died in 1793, and though John Hunter quickly arranged for the students to attend lectures at his own theatre and those of other eminent teachers in London, the tragic death of Hunter himself speedily followed.

While the London school was limping along under the crippling influence of Coleman another school was founded by William Dick in Edinburgh in 1823. This grew rapidly, and in many respects outstripped the London school. The rivalry of the two schools did not tend to the growth of a united profession, and very soon the veterinary practitioners began to urge the establishment of a single body to govern the profession. Nothing could be done while Coleman was alive, but meetings to this end began in 1841, and in 1844 a Royal Charter was obtained establishing the Royal College of Veterinary

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Surgeons, to consist of the graduates of the two existing schools and of any other schools which should be affiliated to the Royal College by Royal Sign Manual. The examinations were to be conducted by the new body, which was to appoint the examiners, control the curriculum, and award the diploma.

A Board of Medical and Veterinary Examiners was appointed, and it may interest this Society to know that the medical examiners included such men as W. T. Brand, Bransby Cooper, Robert Liston, Robert Knox, John Lizars, William Babington, S. Solly, and later Richard Quain, William Sharpey, and Alfred S. Taylor.[9]

Veterinary science was now a speciality. Up to this time I venture the suggestion that in England physicians and surgeons had attended to the injuries and ailments of animals when the occasion arose. All gentlemen were horsemen in those days at any rate, and the educated physician or surgeon would no doubt try his own treatment with his favourite horse, or with his friend's horse, though he might condescend to listen to the advice of the horseleach. The physician would frequently be mystified by the varying response to treatment his animal showed in the case of remedies the effect of which on man he knew well, but it would never have paid him to go very deeply into the matter. He sold his horse and got a fresh one. And so, as Hunter said, "Veterinary science was abandoned," much as surgery had once been abandoned, to anybody who cared to spend his time unprofitably upon it.

The human subject clamoured for treatment, and the demand created the supply. "Skin for skin," said Satan to Jehovah, "Yea all that a man hath will he give for his life," and so the study of human medicine was profitable. But the dumb animal only got attention when the pocket of the owner was threatened, for it was not until last century that kindness to animals and care for their well-being became a duty generally recognised. After the good beginning made by Frederick II in the thirteenth century, it is somewhat shameful that little more was done in Europe towards encouraging veterinary science till the end of the eighteenth century, and that until the beginning of the twentieth century no veterinary school received any financial assistance either from the public or from Government, apart from the one public effort of 1791.—*Proceedings of the Royal Society of Medicine, March*, 1929.

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(2) *Y. B.*, 10 Hen. VI, f. 49, pl. 5.
( ) Letter from R.S., Lambeth Library, dated July 30th, 1594.
(4) Hore, *History of Newmarket*, ii, 6.
( ) Smith, *Hist. R.A.V.C.*, p. 5.
(6) Gervase Markham left on his death in 1637 an unpublished MS. entitled "Le Marescale or Horse Marshal." Smith, *Early History of Veterinary Literature*, 1919, i, p. 236.
(7) Smith, *Hist. R.A.V.C.*, p. 6.
(8) Vol. ii, p. 88.
(9) Since those days there have been James Syme, Alex. Crum-Brown, W. H. Flower, William Turner, J. Burdon Sanderson, J. G. McKendrick, W. D. Halliburton, Sims Woodhead, and Noël Paton.

HINTS FOR VETERINARY INSPECTORS.

By W. JACKSON YOUNG, F.R.C.V.S., D.V.S.M. (VICT.).
Newcastle-upon-Tyne.

THE duties of part and whole-time veterinary inspectors in Great Britain are ever increasing, and it is regrettable that more of a helpful nature is not recorded for the benefit of those who hold office or who are about to take up the duties of an appointment for the first time.

The veterinary inspector is an important official and his actions are frequently criticised by those inside and outside of his profession. His services are in much request and he is required to be prepared for duty at all times.

He meets all sorts and conditions of men and animals and has many difficulties to overcome. It would be exceedingly difficult to find a more versatile official as his duties are various, never monotonous, and always accompanied by a large amount of responsibility.

In the following notes, no attempt will be given to furnish a complete catalogue of the necessary equipment that each veterinary inspector should possess, but information will be given concerning matters that the writer has found useful to him in the course of a busy life.

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KNOWLEDGE OF PATHOLOGY AND BACTERIOLOGY.—An intimate knowledge of the diseases mentioned in legislation is required. Such can be obtained by careful observation and the study of text-books and numerous technical journals. Under this heading might be included facts concerning the etiology, semeiology, *post-mortem* appearances, differential diagnosis, and methods of control and prevention.

The beginner would do well to have a note-book with such information summarised for each disease, and it would be found of the greatest value when in the midst of other duties he is suddenly confronted with a disease with which he has had little or no experience.

KNOWLEDGE OF LAW.—It is essential that copies of the various acts and orders and regulations under which the inspector functions should be possessed and kept in a convenient and methodical manner.

Laws lend themselves to easy classification and suitable files should be used for their reception. It is preferable to obtain King's Printer's copies of them rather than trust to books that contain reprints with annotations.

The Ministry of Agriculture and Fisheries wisely issues a very convenient handbook of the acts and orders dealing with matters that come within the province of inspectors appointed in connection with the Diseases of Animals Acts, and all veterinary inspectors should insist that copies of this book be supplied to them by the bodies employing them. The inspector, veterinary or lay, who does not know his statutory powers, will find himself in difficulties sooner or later. The importance of such knowledge requires to be stressed. The writer deplores the fact that many veterinary inspectors are not supplied with necessary information concerning law, but sees that much good will arise from the full use of the veterinary inspectors' sections of many divisions of the National Veterinary Medical Association of Great Britain and Ireland.

It would be well if the various Government Departments would send copies of new legislative measures and relative literature to the editors of the veterinary periodicals.

Several constabularies in this country have issued to their members small pocket books which contain useful summaries of the laws pertaining to the diseases of animals.

The suggestion is here made that the " National " might do something on the same lines for its members.

FORMS.—In connection with public work, they are necessary. They are drawn up with considerable care and are of very great assistance in securing uniformity in connection with restrictions imposed and the information desired in reports.

Were it not for the existence of forms containing questions, some inspectors would furnish meagre reports and others might write treatises.

An adequate supply should be retained by each inspector, and the writer disagrees with the practice adopted in some districts of the veterinary inspector being supplied with the relative form by a police officer when a suspected case is encountered.

The forms invariably state where copies are required to be sent, and the veterinary inspector should retain a copy for reference. The storage of the necessary documents is a simple matter and lends itself to methodical arrangement.

Nests of drawers, foolscap or quarto size, can be obtained at reasonable prices, and form very convenient receptacles. Strong foolscap envelopes are used for this purpose by many, and the outside of the envelope should clearly state the contents.

Under no consideration should a report or form be sent in the same parcel as a specimen.

Overall Clothing.—In dealing with suspected outbreaks of the scheduled diseases, it is advisable to wear clothing that can be readily cleansed and disinfected.

The wearing of suitable boots and overall clothing is prescribed for veterinary inspectors, who are instructed to inquire into a suspected case of foot and mouth disease.

"The Local Authority shall supply to every such veterinary inspector the boots, overall clothing and disinfectants required to be used."

Rubber or oilskin coats are found the most suitable.

Various patterns of rubber boots are obtainable, but the writer invariably uses those with thick soles and canvas lining. For use with rubber boots, Arctic socks are made, and are found economical.

A veterinary inspector is well advised to carry such equipment with him in his car, and thus be ready for any emergency.

In order to thoroughly cleanse and disinfect the overall clothing a sponge and portable sprayer will be found useful. Sprayers are obtainable that occupy very little room in a car.

Other Equipment.—All veterinary inspectors should possess a microscope, stains, and other items used in connection with the examination of material that cannot be properly examined by the naked eye or hand lens.

Before proceeding to a suspected case of anthrax, the inspector should arrange to take the microscope, slides, staining reagents, blotting paper, cotton wool or tow for plugging the natural orifices, disinfectant, small puncturing scalpel, forceps capable of being disinfected, and a spirit Bunsen lamp.

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Cotton wool swabs on wire inside glass or metal tubes should also be taken. Instead of carrying methylated spirit, the writer has for several years used " Meta " or " White Coal " as a convenient and portable source of heat. This substance chemically known as " Metaldehyde," is sold in the form of cakes. It is produced in Switzerland by the passage of electricity through an electric furnace containing coal and lime. It has a decided advantage over alcohol inasmuch as it does not evaporate when left exposed. When lighted with a match, it burns with a light blue flame giving off no smoke, and leaving no ash. No special apparatus is required to contain it when ignited, as it does not melt and run about. When incompletely burned it gives off a faint odour resembling apples, or formaldehyde.

Very much of this interesting material has been used by me for fixing blood smears, for heating stains, and for boiling scrapings taken from sheep affected with sheep scab. For sheep scab duty, the veterinary inspector should provide himself with a good hand lens, tin boxes with glass lids, slides, cover glasses, labels, mounting needle and a small supply of Farrant's Medium.

Paint sticks of various colours are also useful for marking sheep and other animals, and should be carried at all times.

Similar equipment would be suitable for work in connection with parasitic mange of equines.

For taking scrapings a pocket knife, or safety razor blade, can be used.

For swine fever duty, the following equipment should be taken : *post-mortem* knife, bowel scissors, rubber gloves, waterproof paper, receptacles for viscera and the relative labels, together with a supply of the necessary forms.

In connection with foot and mouth disease, the use of a small mouth gag and an electric torch will often be found very useful. The practitioner who finds that he has encountered this disease should take very full precautions before visiting other stock. His car should be thoroughly disinfected and his clothing submitted to gaseous formaldehyde, which can be obtained by pouring formaldehyde solution on to potassium permanganate. For duty in connection with the Tuberculosis Order, and the Milk and Dairies Acts, receptacles suitable for samples of milk, sputum, and other suspected material, should be taken. For the proper microscopic examination of milk samples a centrifuge is a necessity. Various patterns are obtainable at reasonable cost.

In connection with meat inspection, the inspector should possess a suitable knife which can be shut.

Other Equipment Useful for Veterinary Inspectors.—

Proper office equipment is essential. Filing cabinets—preferably those capable of taking papers of foolscap size—will be found very convenient. A typewriter and its accompaniments are necessary in order to cope with the vast correspondence that comes to the lot of the official who is required to spend very much of his time outdoors, and who has very frequently to answer letters hurriedly on his return. Copies of all letters and reports should be retained. Rulers, compasses, directories, and a good supply of maps are useful adjuncts. Lists should be available for quick reference of all farmers, knackers, valuers, rat catchers, dealers, castrators, and medical officers of rural and urban district councils, in the area in which the veterinary inspector functions. A list of telephone numbers frequently used should be compiled.

The veterinary inspector should know all police officers, medical officers of health and stationmasters in his area.

REPORT OF THE ANIMAL AID WORK OF THE RICHARD MARTIN SOCIETY AT CARRAROE IN 1928.

By KATHARINE LAMB, M.R.C.V.S.,
Carraroe, Co. Galway, Irish Free State.

SINCE the beginning of the work of the Richard Martin Society in Carraroe in 1928, a good foundation has been laid towards the furtherance of the aims of the Society.

Carraroe and the surrounding villages cover an area of 25 square miles. The population in this area is about 2,500. There are 400 householders. Each owns about 15 acres of rocky land, two cows, three calves, six sheep, two pigs and a pony or a donkey. A few people own more than this and many own less—even as little as two or three acres and only one cow. The village is 30 miles from Galway, with no communication by rail, and only bus communication twice a week. Conditions are more primitive than one would think possible. Until now no veterinary surgeon has been available for attendance on the sick animals, since, I think, about 1914, when a Government scheme was abandoned. These are the conditions in the vicinity of the dispensary, but there are miles and miles of similar country.

The more I have to do with the animals here, the more necessary it appears to me, for the owners to have an opportunity of seeking skilled advice, as to the management and treatment of their animals, whether healthy or sick.

Everywhere I go I find results of errors of diet, misjudged

administration of home remedies, interference with natural phenomena, or even absolute superstitious practices. Till now the owners have had to depend on their own rudimentary knowledge, or on the advice of " handymen " who, though well meaning and sometimes sound enough in their principles of treatment, often go far astray over the correct dosage of home remedies. Also, there are many fixed ideas as to feeding, etc., which one finds everywhere and yet which are often quite misplaced. For example, there is an idea that no sick animal must be allowed water. So that the work has been largely educative while advising as to housing, disposal of carcases, and hygiene generally on every opportunity. All things considered, the animals are remarkably healthy, and except for the ever-present plagues of young animals, I should say a large per cent. of the cases are due to mismanagement.

As to the practical side. A visit to Carraroe was paid by Miss Schaffert, secretary of Richard Martin Society and of the Council of Justice to Animals in Ireland, in order to gain some idea of the conditions. As a result it was decided to build a dispensary consisting of a surgery and consulting room. This has been done, and the building is commodious and practical. A few instruments and simple drugs have been collected. The completion of adequate equipment is now only anxiously awaited so that a weekly dispensary attendance day can be held. This has been impossible up to date owing to the absence of any accommodation for the owners, etc., but owners have known that they could seek advice, treatment and professional visits whenever their animals needed them. Often this has meant that the animals were nearly past hope as the owner " has not wanted to bother me," as he said, which would not be the case if one were known to be at their services at some fixed hour. It has also, I am sure, influenced the number of cases. The number of cows and calves treated is 52, ponies and foals 22, and donkeys 1 ; total 72, of which 27 were surgical cases and the rest medical. 108 attendances and consultations have been held at the dispensary and 44 visits have been paid. The owners are requested to pay cost price of the medicines supplied, and in the case of a visit a small fee is generally charged. This is not always paid at once, but I find that on the whole the people are very good in coming to pay the small amounts they owe, thus showing their appreciation. Most of the visits are paid on a bicycle, unless they are across the bay, in which case I am rowed in a curragh. Often the cases are the owner's only cow or pony. I remember one case, in which the cow died from sheer weakness and starvation after calving. She was all the stock the young couple had, and they were soon

expecting their first baby. They now only own the calf which is at present under treatment.

The very first case I had was belonging to a widow with 10 small children. Their only cow had been sick 10 days after calving. She had been given a dose about eight times too small. I recommended the same medicine, but the right dose and the cow was better the next morning.

Another case was of a widower with four small children. His only cow had been bad a few days with red water. He had followed the quack treatment popular in the district, which seems to ignore the most frequent complication of this disease. The cow was very bad when he came to me. With proper treatment she improved in a few days and recovered.

But, of course, one is not always so fortunate. One pony, the only stock belonging to a very poor man with 10 children, was stricken with paralytic hæmoglobuiuria and died within three days.

Another cow, bleeding internally, died before I reached the farm.

Of course one is always handicapped by lack of equipment, etc. Often I have had to borrow the teat syphon of the local shopman for the treatment of milk fever. I was lately called out of bed at 3 a.m. to a young calf with tympanitis, which was suffocating when I got there. I quickly punctured with a tiny trocar I have, which, fortunately, was effective, but it will not always be a small calf, and these particular cases are so common here that I always go dreading having to perform emergency puncture of the rumen.

Many more examples could be given, and much more could be said, but perhaps this will be enough to illustrate the kind of work that is being done. To people with experience of town dispensaries with large numbers of small animals mounting up the number of cases, it must seem a very small beginning, but it should be remembered that nearly every case was " in extremis," and that the animals were often the owner's sole means of support.

I hope during the next year to be able to educate the people to the idea of bringing their animals before they get too ill, and also to the fact that a sick pig, sheep, donkey, not to mention dog, can receive attention if only they will send word, or bring them, when showing symptoms of pain.

I feel sure that in the coming year much more work will be done, and that this year's work is only the very small seed of much advancement as regards hygiene, prevention and treatment of disease, and the consequent happiness of the animals under our care.

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NOTES ON THE PRESENT STATE OF THE BEASTS OF BURDEN IN MOROCCO.

By R. V. ISHERWOOD, B.A. (Oxon),
Royal Veterinary College, London.

During a short visit to Morocco this vacation, I had the opportunity of witnessing conditions, which, if told to me by a third person, I should have great difficulty in crediting.

I landed at Tangier, and even my first day there, I was struck with wonder at the loads which the small donkey, which is the commonest means of transport, managed to bear up and down the steep and narrow streets of this small seaport.

To anyone who has only travelled on the Continent, the poorness of condition in most of the animals soon becomes such an ordinary sight, that it no longer makes one stare in horror. It is not until one returns to England and sees the comfortable well-covered animals of our roads and streets, that the appalling contrast is really grasped.

This applies to an even greater degree to Morocco. I remember distinctly on my first afternoon in Tangier, I was standing at the window of my room in the hotel, which overlooked the harbour. Here were lines of donkeys with their Arab task-masters removing the loads from the small ships moored to the quay. Apparently no load was too heavy for the donkey. I watched packing-cases, which took four men to lift, roped on to the back of these animals, the only protection to the back being a very poorly-padded pack. From the state of the backs, which I was to see, much too commonly for my liking, they were worse than useless.

The loads often totally eclipsed the donkey, so that the animal had to keep its head almost on the ground, and all one saw were four slender legs, which almost seemed to bend with the load.

The cab-horses were truly the poorest crocks that I have ever witnessed. The majority were lame, and the drivers would hurl their rickety carriages, often full to breaking point with a whole Arab family, at the steepest gradient. There seemed no end to the endurance of these miserable animals, for they took all the hills as fast as the whip could flog them.

Occasionally one saw a truly fine specimen of horse-flesh, ridden by a wealthy Arab.

From Tangier I travelled by road to Rabat, where the conditions were very similar, but I witnessed here one sight which literally makes me sick to think of it.

Three donkeys, heavily loaded with drums of oil, one in each pannier and two placed between on the pack, were coming towards me.

The drover was encouraging the last of the three by the usual means, and to my horror I perceived that the poor beast was not merely lame, but was so down on the off-foreleg, that the back of the fetlock-joint was very nearly touching the ground.

Although this was the worst case I saw, the general practice seems to be to work the beasts till they are positively unable to take another step. It was horrible, and had I not actually seen it, I would not have believed such to be possible in the year of our Lord 1929. From Rabat I travelled by motor to Féz. Generally speaking, the animals at work in the country districts seemed better cared for, although, of course, they were all carrying prodigious loads. The practice of hobbling is resorted to in the case of both horses and oxen, and the method of tying the two forefeet together seemed by far the most common, although I did see a few cases of fore to hind.

It struck me that the hobbles in every case were very much tighter than necessary, as the feet couldn't have been drawn much closer together, if the legs had been bound all the way up.

It was in Féz that the terrible prevalence of saddle and harness galls struck me most forcibly.

I have seen pack-horses, when their loads and packs have been removed, dripping blood from 10 or 12 different sores.

In the majority of cases nothing seems to be done to alleviate the continual pain that must ensue from these wounds.

Absolutely by chance, the morning before my departure from Féz, I came across a veterinary station in the centre of the old town. An American lady had started this very good work and was luckily present when I walked in. As soon as she heard that I was a veterinary student she gave me full permission to examine all the work and the many patients. I was introduced to a French veterinary surgeon who was directing all the work.

Never in my life have I seen such a crowded courtyard.

In this old Moorish courtyard, under the most unfavourable conditions, the work was being carried out.

To every conceivable post or rail, horses, mules and donkeys were tethered.

Cases of fistulous withers, poll-evil, sore backs, sprains and evil-looking wounds were all huddled together. I was terribly sorry that my time was so short, but from the veterinary surgeon in charge I soon learned a large number of their difficulties. In the majority of cases they find the greatest difficulty in persuading the natives to allow their

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animals to remain idle while under treatment, even although no charge at all is made.

As in most institutions, dependant on charity, the funds are often very low, and there is the added difficulty of obtaining supplies of drugs, etc., at anything except an exorbitant figure.

They had one consolation, however : That the work was becoming increasingly popular and the natives usually returned with their animals after they had witnessed the beneficial results.

So far I have not mentioned the dogs in this country. They are almost better left unmentioned, as they are nearly all in an awful state owing to malnutrition, and quite every other dog is suffering from eczema of one kind or another.

There is, however, one thing I feel must be said in defence of the native. He is often exceedingly poor, and his means of livelihood is his horse, mule or donkey ; and it is a common sight to see the drover, bent double with a load, stagger up the street after his beasts of burden, similarly laden.

THE ELECTRIC STUNNING OF ANIMALS FOR SLAUGHTER FROM THE HUMANE STANDPOINT.

By PROFESSOR MAX MULLER,

Chief Veterinary Inspector at the Abbatoir, Munich.

SINCE the aim of the human slaughterer is to quickly stun and bleed the subject, so any claim to carry out these features must

be of special interest. During the last decade it has been possible to carry out mechanical stunning for slaughtered animals inasmuch as the Belgian shooting apparatus has been quite useful for animals. This procedure has spread more or less into all civilised countries to-day as the quickest method of stunning animals. It is being generally recognised that on grounds of humanity, bleeding without stunning ought not to be allowed.

The demand for the usual and effective stunning is not recognised in the ritual of the Jews. The stunning and bleeding of the animal in the form of the Schechita is still recognised by them as a civilised act. The slaughtered animal must have no injury to the brain, so that the captive bolt and humane killer find no place in their slaughter methods.

Trials with electric stunning seem to indicate that the Jewish objections may be overcome. The efforts of Professors Max Muller and Weinberg have made it an accomplished fact. The electric stunning apparatus is laid on to the animal and a weak interrupted current 8,000 to the minute makes the animal momentarily unconscious. The head of the animal is loosely attached by the horns with a cord attached to a hook on a winder and the animal does not stumble from the momentary stunning, but goes down at the hind end. The stunned animal is then lowered gently to the ground. The much objected to pulling about and throwing down process is quite done away with, and by continuing (or while inserting) the current, through the chest incision, the animal can be

bled to death. An easily recognisable sign of complete unconsciousness of the animal until the holding-off of the electric current is the appearance of rigor of the muscles, which momentarily disappears if the current is stopped.

When large animals for slaughter are rendered unconscious in half a minute or longer, the unconscious condition lasts long enough after cessation of the current to bleed the animal to death before consciousness returns. Electric stunning of animals results in a quicker and more painless death more peaceably carried out. The process must be carried out by the slaughterer in a humane way, and then it is painless and the animal is well bled; and it does not involve danger to the operators in the fixing and casting of the animal.

If the electric current is taken off, in a minute the animal may go from the side position on to its chest, lift up its head and get up again after two or three minutes. With the occurrence of rigor in the chest and respiratory muscles the breathing becomes very laboured. Cessation of the application and returning to consciousness is followed by deep expirations and respirations.

The setting up of electric stunning devices for the slaughtering of animals will further the cause of humanity. The question of the stunning of animals for slaughter, to the humane slaughterman, is a matter which is not a party, political, or religious one, but one that must be answered from the point of view of humanity and justice to animals.

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SHEEP SCAB IN GREAT BRITAIN.

Conference Between The Royal Agricultural Society and the Ministry of Agriculture.

THE increase in the number of outbreaks of sheep scab in Great Britain has become so alarming, that on March 6th, 1929, the Minister of Agriculture, attended by Mr. J. Jackson, M.R.C.V.S., Captain Briscoe, M.P., and Mr. Houghton, received the deputation from the Royal Agricultural Society and the Sheep Breeders' Association in order to discuss what could be done to lessen, and if possible stamp out the disease.

Sir Merrik Burrell, Captain Johnstone and Mr. Alfred Mansell represented the R.A.S.E., and Mr. Egerton Quested and Mr. Stilgoe the Sheep Breeders' Association.

A lengthy discussion took place, the whole situation being carefully reviewed. It was agreed by all that although the current Regulations of the Ministry of Agriculture are sufficient and need no alteration, yet the present position is deplorable. Therefore, the gravity of the fact that the outbreaks of this disease are to-day as frequent and as widely spread as they were 20 years ago, in spite of every kind of official effort to reduce them, cannot be exaggerated.

It was agreed also that the suggestion of a double dipping order (i.e. dipping twice within 14 days) for all counties, is unwise and illogical. Success is more likely to be obtained by concentrating the efforts of inspectors, and the expenditure of money, on those counties where the disease is known to exist, rather than by squandering them over the whole country, and putting sheep owners in clean districts to the annoyance and expense of double dipping their sheep in order to cure them of a disease which they have not got.

The failure of the well-conceived regulations of the Ministry to achieve any sort of result is due to two factors :—

(i) The farmers in sheep scab areas do not take the trouble to round up all their sheep at dipping time, and leave many scabby sheep behind on the hills.

(ii) They do not dip efficiently those they do collect. The sheep are not properly immersed, and the dip is not kept at proper strength. Sometimes they do not even use proper sheep dip at all.

The carelessness, and evasion of the duty of carrying out the regulations, is caused by the fact that many of the men do not look upon sheep scab as a serious trouble and a disgrace to have on a farm. In Australia and New Zealand, where people think in terms of " sheep " and where the solvency of the country depends on the wool clip, public

opinion, and the farmer's own interests, forced them to take such drastic and concerted action that the disease was quickly stamped out.

In this country that is not so. Here our wool trade is a minor matter, and there is too little public opinion behind the official regulations to ensure their enforcement. This causes men with scabby sheep to hide them instead of reporting them ; one farmer shields the next instead of reporting him, and when the Ministry's inspectors discover cases of non-reporting, and of omitting to dip, the fines imposed are insignificant. In the last quarter of 1928 the Ministry prosecuted in 53 cases. In three cases adequate fines were imposed. In the remaining 50 cases the average of the fines was £3 2s. 8d. In Wales the average fine was £1 9s. 3d.

Another very disquieting aspect of the situation is that out of 743 outbreaks in 1928, 22 per cent. were not reported, but were discovered by the inspectors. There is no doubt that many other cases exist which are neither reported nor discovered.

The policy of putting the onus of having sheep scab among his sheep on the farmer, and of punishing him for having it on his farm was tried in 1923, and had to be withdrawn as it only increased concealment and consequently the spread of the disease.

During the past five years the Ministry has sent teams of inspectors into the worst area, i.e. North Wales, to lecture and assist the local authority in rounding up sheep and supervising the dipping in each area. But success was not attained owing to the apathy and deliberate obstruction of some of the local farmers. Very few attended the lectures. When the big drives of sheep were organised, if scabby sheep were found, some of the men would even tie the sheep's legs and leave them in the bracken so that they should not be discovered and the owners blamed for not reporting.

Wales, and especially North Wales, may be the worst districts, but it would be unwise, and unfair, to blame those areas alone. There are parts of Scotland and of England also where conditions are nothing less than a disgrace.

Certain clean and adjacent counties have formed themselves into groups, and, although allowing mutual unrestricted movement of sheep, allow no sheep from outside to enter a market in their group area unless double dipped or to be double dipped after arrival on private premises.

But of late several cases have occurred when these protective barriers have been punctured, and sheepowners have failed to double dip sheep after they have been imported into the area. Nothing but severe fining of anyone importing sheep without double dipping them immediately on arrival into the clean area, can guard the clean

areas adequately. The difficulty is to get all clean counties to act in concert and on identical lines.

The Minister is of opinion that his staff can be no more successful in their efforts than they are at present, until public opinion is sufficiently educated and aroused so that farmers and magistrates help and support the inspectors. In no other way can the seriousness of non-reporting, of inadequate rounding up of sheep, and of inefficient dipping, be brought home to the delinquent farmers. He would welcome and support gladly any steps which the Royal Agricultural Society thinks desirable to take in this direction.

HYSTERIA IN THE DOG.

By HENRY GRAY, M.R.C.V.S.,
*London, S.W.*5.

THIS disease has attracted much public attention during the past four or five years, and has given rise to much speculation as to its nature, causation and treatment. It is, however, no new disease, as I shall presently show.

It has no connection with distemper, but in rare cases of the nervous form of distemper, dogs may show hysterical symptoms, as I have pointed out in my article on distemper in Hoare's *System of Veterinary Medicine*, a work published two years before the Great War. Similar symptoms are sometimes observed in maiden bitches when first coming into œstrum, or nine weeks after that period when they often come into milk. In puppies under six months, hysterical attacks have, in my experience, always occurred when they were let loose and allowed to race about in public gardens or parks, or even in the street. It was observed more on a Sunday or on a bright sunny day, mostly after a spell of dull weather, during spring. Not infrequently these hysterical attacks would recur, but rarely after six months of age. The hysterical manifestations in these cases are identical in expression, if not in causation, with the epizoötic or widespread disease.

DIAGNOSIS.—This hysterical malady is distinguished from the epileptiform seizures arising during the course of *distemper* by the fact that it comes on suddenly during exercise, and there has been no previous *malaise*, or symptoms which usually precede the "fits" in distemper. Again, one or two attacks may not be followed by others or there is permanent recovery after disinfestation of the ears. In distemper the seizures are usually followed by others, and in the end death takes place, or the animal has to be destroyed. In some

cases, however, generalised twitchings and choreic movements of the limbs may suddenly appear in otherwise apparently healthy sporting dogs. In meningitis which follows distemper there are no epileptiform seizures, and the delirious whining, crying, or barking, is continuous, or with short intermissions of quietude. As soon as the sedative effect of medicines administered has passed off the delirious whining reappears. In *true epilepsy* or non-infective forms of epileptiform convulsions the seizures are sudden, usually without any preliminary excitement and of short duration. There is always unconsciousness, champing of the jaws and foaming at the mouth; the animal generally falling over and having convulsive movements of the limbs. The seizures re-appear after certain periods of freedom, and may do so for the remainder of the animal's life.

In *rabies* there is no sudden maniacal barking or excitement and no violent rushing about, let alone any period of quiescence. The course is short and sure, almost always ending in death. It is like distemper—an inoculable disease. Fortunately for us, this disease is now non-existent in the British Isles. No doubt in former days hysteria was mistaken for rabies, and the affected were destroyed for that complaint.

This present epizoötic or panzoötic form did not attract much attention from the veterinary profession until 1882, when the late Professor Nocard of the Alfort Veterinary College, in the environs of Paris, published his observations. Still, however, Guzzoni, of Milan, published a paper on it in 1877, and Mégnin, a retired army veterinary surgeon, who devoted himself to parasitology, and was until his death the editor of *L'Eleveur*, studied this complaint and recorded his experience of it in 1878, 1881 and 1882. Mégnin's communication to the French Biological Society in 1881 stated that a few days previously he had witnessed a peculiar malady in sporting dogs, which, according to their owner, made them look consumptive, and caused them to die, after months of suffering. This state of affairs had been going on for several years among different breeds of dogs, while animals purchased to take the place of the losses were attacked within three or four months, and eventually succumbed. His kennelman was in despair, for in spite of disinfection, limewashing, and other measures, the mortality did not diminish. A dog seriously affected and about to be destroyed was sent to Mégnin, who for eight days kept the animal under constant observation and noted the epileptiform seizures, which occurred generally while at exercise, and also remarked the frantic and almost continuous shaking of the ears. Having examined the interior of these, he found the external auditory canal to be covered with a thick layer of sooty-coloured wax. This, when

examined under the microscope, contained parasitic mites which he had formerly seen in the ears of the other dogs, cats, and ferrets. This finding led Mégnin to recommend antiparasitic treatment to the ears in the pack, and the disease disappeared.

In Nocard's experience certain kennels were particularly scourged by it in spite of medical treatment, hygienic management, crossing the breed or importation of new dogs. In a kennel of 15 couples during eight years more than 60 hounds had either died or were destroyed, suffering from the malady. While the animals are at rest nothing is seen to indicate the existence of the malady. They are lively and in as good spirits as the non-affected, and when out hunting are quite as ardent until, in about half an hour or an hour's run, all at once they give out a loud cry or scream, which the whip at once recognises as the sign of an attack of the complaint and lashes out his whip in order to stop it. The creature then behaves as if at fault, bounds from side to side with haggard eye and foaming mouth, running against anything that comes in his way, until turning in a circle two or three times, he falls down in a state of convulsions. When the fit is over he gets up looking stupid and exhausted or fatigued, and if the attack has not been too violent, he may, after resting a quarter of an hour, emerge from apparent apathy and enter the chase as much as before. When in the kennel one cannot distinguish the affected from the non-affected. But as the disease becomes chronic or the attacks more frequent, the hounds become more sulky and savage than usual ; they retire into the corner of their kennel, keep away from their companions, and do not join in their barking or play. At a more advanced stage, the attacks are so frequent and serious and that scarcely have the animals commenced to run, than a seizure takes place ; and, if they do not die on the spot, after recovery they refuse to go on. At no time does an attack take place when the creatures are not hunting.

The diseased animals may become completely stupid and quite useless. Sometimes they are *quite deaf*, but at no period have they an attack of the convulsions while in their kennel, so long as they are not excited. Indeed, it would appear that so long as they do not hunt, no matter how active the exercise may be, there is *no* attack, for one of the huntsmen informed Nocard, whom he consulted with regard to the disease, that he could not induce it by compelling hounds to follow his carriage from Versailles to Paris, though these animals were quickly seized with it when hunting.

After a lot of investigation without any satisfactory results as to the cause, Nocard noticed a great number of acari or mites, *Symbiotes auricularum*, crowded on to the drum of the ear, and to settle the

question if these were the cause of the epileptiform seizures he examined a great number of the ears of dogs affected and also non-affected dogs, destroyed or died in the Alfort Veterinary College. All the dogs destroyed for the malady had these parasites exactly limited to the deeper part of the *external auditory hiatus*, and *without anything* to be seen or felt in the external parts of the ear.

In the 30 dogs killed or which died at the Alfort College for various diseases or old age, Nocard did not find acari in the ears of any.

In order to prove whether this parasite was really the cause Nocard placed some of the wax containing the parasites into the ears of non-affected or non-infested dogs. In less than a month the small amount of wax had given rise to numerous prosperous colonies of the parasite, and when these dogs so infested became excited in the chase, they developed the complaint.

On the contrary, when he disinfested the ears of the naturally infested dogs that had shown the characteristic symptoms of the disease there were no more attacks.

Observation has shown that irritation or compression of the nerves of the semicircular canals of the ear will occasion disturbed equilibrium, and fits of derangement, such as fury or sullenness, reflex acts of crying, screaming, scratching, etc. Nocard found no lesion in the affected dog's ears. But Railliet and Cadiot have shown that these hysterical attacks of auricular origin are manifested independently of direct stimulation of the sensory nerves of the ear as the internal and even the external ear may remain unaltered.

I have given you this account by Nocard to show that the epizoötic we have been experiencing in these islands during the past five or six years is no new malady. Some have stated it was introduced from the American continent where it occurs and is commonly known as the frights' disease. Why from the American Continent when Europe, in which the disease has so long prevailed, is so close to us, is beyond my comprehension of the history of plagues.

Although Nocard did not observe any naked eye lesions in the outbreaks he encountered irritation of the external ear with a more or less discharge, holding the head on one side or constant flapping of the ears, and the running about of the mites are frequently witnessed. But as Nocard observed, one must not run away with the idea that because no lesions or ear symptoms are to be seen there are no parasites.

Beyond the characteristic terrified or anxious appearance of the animal, the sudden yapping or barking and the rushing away as fast as it can go until it is stopped by some obstacle, or becomes exhausted or falls down in a convulsive attack, other symptoms without any exercise are occasionally observed, such as an occasional unaccountable

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howl or shriek as if in pain during the night, or fly-catching hallucinations, or an irresistible desire to bite at the feet, hind or fore, or a peculiar nervous crouching on all fours. Ataxia, vertigo, pivoting on hind legs, etc., are sometimes seen. Whether the numerous cases of paralysis of the lower jaw seen nowadays have anything to do with this malady I am not prepared to say. But I feel certain that many cases of the nervous form of distemper are confounded with it. On the other hand, I think, however, it is permissible to allow that this disease may be coincidently associated with distemper, in which a great percentage of cases of inflammation of the internal ear is to be found. It is well to observe that all dogs seized with the maniacal or terrified fright do not develop convulsions. Far from it ; the attacks may be shortened or aborted by coaxing.

Not only do dogs, but also cats and ferrets show peculiar nervous systems due to the ear parasites. Kittens, high-bred ones, succumb to epileptiform convulsions, or rush all over the place or climb up curtains in an apparently frightened manner. Even horses, cattle, goats, etc., show similar nervous symptoms.

Many dogs in an affected kennel do not manifest any signs of the malady, a great number have no more than one attack, and others have several and eventually recover without having received any rational treatment. A great proportion of the attacked have had distemper, varying from one month to two years or more, before. It is well to add, however, that some dogs may show the disease when in their kennel.

Now what is the cause of this widespread malady which attacks dogs of all ages after the weaning period, male and female, of all breeds, but the more highly-bred than the mongrel ? Although it is noticed more in kennels, it often attacks the only dog in the house when it gets warmed during exercise in the open, even at night time when it is dark. Nocard thinks that increased warmth of the body during exercise favours stimulation of the reflexes.

No end of theories have been wildly disseminated as to the cause of this malady, but they have only arisen from the imagination, and not based on logical conclusions drawn from a proper sequence of observed facts.

Food has been advanced as a cause ; that old bogy, and, I am afraid, an everlasting one, " worms," which are invoked as a cause of every imaginable complaint of the dog, rheumatism, colic, and other supposed conditions have been used to account for the mystery.

The reason it is generally observed in a large number of dogs is because the chances of getting the disease from one or another increase in direct proportion to the number. The single dog in a house stands

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a remote chance, unless it comes from an infested place, or, as I observed, a case in a country practice where some patient or other introduced it into the practitioner's infirmary, so that his own dogs contracted it.

Why does it occur as an epizoötic or a panzoötic after long periods of quiescence or mildness? I am afraid that can only be explained by that mysterious law of periodicity not peculiar to the plagues of man, animals or plants, but to the appearance of plagues of lice, mice, irruption of rare birds into places not their habitat or of their usual migration; even of crime, fashion, taste, idea, etc.

Highly-bred dogs, which are more likely to be kept in numbers, are more impressionable than mongrels, and their nervous system is more unstable, and in consequence they have in general more of the nervous temperament, and, therefore, they are more likely to be given to stampeding or become seized with a panic should one of their number during the excitement of the chase develop an hysterical attack. In fact, in such a condition they may develop the malady by imitation, as we have seen in the human being, horses, cattle, sheep, pigs, birds, etc.

I may add, in parenthesis, that some highly-strung dogs develop nervous symptoms from fleas, lice, eczema or other forms of surface irritation. When the back of such is tickled or scratched, they manifest symptoms of the Jacksonian epilepsy type. This is, however, much commoner in the cat.

It is observed more in the autumn, winter, and early spring, than during the warmer weather. The reason of this is that most acari or mites which live on the surface of the body go deeper into the cavities to obtain more warmth during the colder weather, and in the warmer weather they live more on the surface. This seems almost a law with acari affecting animals. Again, sporting dogs are used for the chase during the colder months.

There is only one exciting cause to this specific malady so far as my observations go, and that is the ear-mite, *Symbiotes auricularum*. No English author but Steel refers to this malady, but it appears in several translations from the French, in whose textbooks it is described as the epileptiform convulsions of auricular origin of sporting dogs. Cadiot and Breton in their superb little work on canine medicine, designate it as the contagious epilepsy of kennel hounds.

I have never had the opportunity to examine a dog which has died of this malady, so that I am not in the position to say that when one cannot see the parasites in an ordinary examination, they are not present out of sight. Acari leave dead animals when cold, as Mr. Richardson, who is present, can testify from personal experience.

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So unless one examines a dead dog as soon as possible after death, one may not be able to find them.

There is one thing that is certain, and that is if the ears are disinfested, or rather disinfectation treatment is carried out, the disease disappears from a kennel or does not recur.

In an outbreak in a kennel all dogs should be treated simultaneously and the place thoroughly disinfested to prevent re-infestation. By this treatment the place is ridded of the malady, whereas other systems adopted have generally failed and given rise to serious losses and much anxiety.

During the attack the animal should, if possible, be seized and then confined in a dark, quiet place and left alone for it to pass off. If it should be deemed necessary to give a sedative to cut short the excitement, it is best administered hypodermically.

To prevent nervous excitability after the attack, a saline sedative may be put in the drinking milk or water twice a day for a few days.

On no account should a nervous person be allowed to interfere with a dog during a maniacal seizure, as such in losing control of himself or herself is likely subconsciously to place one or both hands between the dog's teeth when it is convulsively opening and shutting its jaws, and in consequence become more or less seriously bitten.

Dogs in these attacks are not conscious of what they are doing, and therefore they should not be classified as savage.

I have only dealt with this subject summarily, and from an effect to a cause point of view. If I had adopted the opposite—from cause to effect—I might have been able to show what numerous effects these mites in animals' ears have. They are the commonest cause of ear-trouble, and a frequent cause of nervous disturbance.

In conclusion, let me repeat this is no new disease, and that it may be readily overcome if proper treatment is adopted or precautions taken.

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Clinical Articles

A Recurrent Case of Spavin.

By T. A. COCKSEDGE, M.R.C.V.S.,
Chief Veterinary Officer, British Somaliland.

In 1926 a four-year-old gelding native pony, the property of an officer, was brought to me lame behind, with no history. On examination I was unable to give a positive or even a tentative diagnosis, and was forced to play for time. The owner, being a calm and sensible person, and not expecting miracles, I had a free hand. I had my suspicions, both from the action and from a slight wasting of the muscles, but was quite unable, for a month, to discover anything definite, there was never any decided heat or pain, and the animal would improve slightly, and, then, be as lame as ever. Finally, a very small exostosis appeared at the seat of Spavin, and I puncture fired deeply into the exostosis. The animal, after a further six weeks, became quite sound, and has played polo, trekked long and tiring journeys, and done his work thoroughly for over two years. A few months ago, he had a fastish gallop up a dry river-bed, which was pretty heavy in parts with sand, and that evening he was " cat-lame " in the same leg. I examined him the next morning, and could find no reason for the intense lameness ; he was unable to use the leg at all. I decided to put his hock into antiphlogistine, and await results. He improved slightly, and I came to the conclusion that it was a recurrence of the old complaint, and that something had either excited a fresh Ostitis or inflammatory phenomenon within the hock, and that I had again to deal with an arthritis. I this time decided to rest the animal, only applying a mild blister, in order to gain my end, rest. The animal made a complete recovery. In my experience, if once you have had recovery with a distinct Exostosis and Anchylosis, the recurrence of such acute symptoms, as in this case, are distinctly rare, and, moreover, the animal had been in hard condition, doing hard and strenuous work for two years. Incidentally, on his river-bed gallop, he had a far lighter weight than usual.

Chronic Debility of Camels, Caused by Hydatid Cysts.

By T. A. COCKSEDGE, M.R.C.V.S.,
Chief Veterinary Officer, British Somaliland.

During the last four years, I have been dealing a great deal with camels of the Somaliland Camel Corps, and I have had in the ordinary

course of my duties to examine numbers of animals, shown up by executive officers for casting. A great number of these animals are brought with the history of being bad doers, no use on trek, etc. etc.

Two years ago, I demonstrated a Trypanosome in this country amongst camels, so am always on the look-out for Surra, and, unless it is decided to destroy such "casters" immediately, they are invariably isolated as suspicious cases. Many of these camels are reasonably young animals, and a genuine attempt is made to keep them serviceable, but a certain percentage are destroyed eventually as "chronic debility cases."

I or an Indian veterinary assistant, invariably make *post-mortems*, and in a very large percentage of cases, we find the lungs and liver, especially the lungs, invaded to an enormous extent with Hydatid cysts, from the size of a pea to that of an orange. I have actually counted as many as 40 in the lungs alone. It is small wonder that the animal is a chronic debility case! I see no chance of either diagnosing or treating.

I am not in a position to say what is the adult cestode, but I suspect some parasite of the jackal, as they are very common, whereas the dog is an uncommon animal in this country. All these camels are bought in Aden, are Arabian camels, as the native camel is unsatisfactory as a riding camel, but why an Arabian camel should be more susceptible to Hydatids than the native camel I fail to understand, but it is most uncommon to see a case amongst the native animals. I note in the "One-Humped Camel" by Leese, he says it is not a very serious pathological condition. To my mind, in this country at any rate, I put it next to the various forms of arthritis in the list of causes of wastage.

Report on Microfilariæ in Horses at Mona.

By S. K. SEN.

The average length of the microfilariæ, as based on measurements taken of 11 specimens, was 194 microns, the individual measurements in microns being as follows:—

200, 200, 200, 150, 170, 230, 200, 190, 170, 200, 220.

The "fixed spots" could not be located with certainty owing to the specimens having undergone shrinkage, so that a provisional diagnosis had to be made on the length of the specimens alone.

The following species of "filaria" have been recorded as being parasitic upon horses:—

(1) *Parafilaria* (York and Mapleslone, 1926) *multipapillosa*, Condamine and Drovilly, 1878 (*Filaria hæmorrhagica*, Railhiet, 1885).

In the literature available in the library of this Institute, no definite indication is available as to the occurrence of the embryos in circulating blood. According to Neveu-hemaire (*Parasitologie des Animaux Domestiques*, 1912) and Railhiet (*Traité de zoologie médicale et Agricole*, 1895), the liberated embryos measure from 220 to 230 microns in length. As is well known, the adult filariæ occur in the subcutaneous connective tissue.

(2) *Filaria spirovoluta*, Smit & Ihle, 1925.

The microfilariæ which occur in the blood, measure from 160 to 190 microns in length. Smit and Ihle discovered the adults in the loose connective tissue beneath the pectoral muscles of a horse. The length of the specimens in question preclude the possibility of their belonging to this species.

(3) *Setaria equina*, Abildgaard, 1789 (*Filaria papillosa*, Rudolphi, 1802).

According to Neveu-Lemaire (l.c.) and others, the embryos of this species measure 280 microns in length. Wirth (1917) describes at length the embryos of *Setaria equina* which occurred in the blood of Hungarian horses. The microfilariæ measured 250-290 microns in length, but stained specimens were always shorter due to shrinkage, and measured only 150-240 microns. According to Wirth, " Shrinkage occurs after the employment of every method, especially after dry fixation."

The following passage, which occurs in Railliet's *Traité de zoologie* (1895) throws further light on the question of the average length of the embryos of *Seteria equina* (the passage is literally translated from the original) : " In 1848 Wedl. had observed some embryos (of *Setaria equina*) in the blood of a horse of which the peritoneal region contained a *Filaria equina*. They were 1/7 m.m. (143 microns) long, and were present to the number of 1 to 3 in a single drop of blood. In 1876 Sonsino, likewise, found in the blood of a horse, in Egypt, some embryonic nematodes to which he gave the name of *Filaria sanquinis equi ;* on autopsy he discovered again [some specimens of] *Filaria equina ;* the embryos resembled those of *F. sanguinis hominis* [—*F. bancrofti*, the embryos of which, when stained, vary from 154 to 311 microns in length], but were very small. Lastly, Lange reported in 1881 that Jakimoff had observed in the blood of a horse affected with hæmaturia and icterus numerous embryos also resembling those found in man."

From the foregoing it would appear likely that the specimens in question represent the embryos of *Setaria equina*.

Translations

Extradural Anæsthesia in Prolapse of the Uterus of the Cow.*

By DR. ARTHUR TOMASCHEK,
of Guntramsdorf.

I was led to try this method of anæsthesia by reading a paper given by Dr. Franz Benesch before the Veterinary Society on January 12th, 1926, and published later in *Wiener Tierarztlichen Monatsschrift* at page 130 (1926). I was also influenced in the matter by a loss in my practice that might have been avoided by adopting suitable anæsthetic procedure. I was called to a cow down, and with an everted uterus. I returned it with the cow down all the time, inserted five stitches and put on a truss. Next day all the stitches were broken and the womb out and very œdematous. In spite of all care the cow had to be slaughtered. I now adopt Prof. Benesch's method, and have had great success with it in my practice.

Recently I have had the opportunity to employ the method of epidural anæsthesia in four cases of prolapse of the uterus. The treatment, as given in *W.T.M.*, is simple and consists in injecting 30 c.m. of a 0.75 to 1 per cent. solution of tutocain into the space between the first and second coccygeal vertebræ. Within 10 minutes or earlier straining ceases completely, and with little trouble and without exercise of much force, a womb may be cleansed and bathed with lukewarm alum solution, and the prolapse put back. With this method sutures can be dispensed with, and in no case did I see a return of the prolapse. A truss was always put on. This treatment produces a favourable impression on the owner and saves the veterinary surgeon a lot of trouble from violent straining in a recumbent animal. Moreover, there were no complications from metritis, which is often the case with the old methods.

Further advantages of the local anæsthesia are that there is little danger of a rupture of the uterus because counter pressure is done away with. It robs outside persons from interfering because the accoucheur alone can carry out the procedure. The injection causes no bad results, and no paralysis of the tail or hind parts if the solution is sterile. The effect of the injection passes away in one to $1\frac{1}{2}$ hours.

* *Wiener Tierarzt. Monatsschrift*, Nov. 1, 1928.

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It causes no fever or general disturbance and no lessening of milk supply.

In my last case (the fifth) a farrier and a cowman had made unsuccessful attempts to put back a uterus. I was called, and carried out extradural anæsthesia and put back the uterus quite easily. As far as my experience goes, I can warmly recommend the procedure to my fellow-practitioners.

I am going to carry out the procedure not only in prolapse of the uterus, but in difficult parturitions, castrations and eversion of the vagina, as Dr. Benesch advises, and after further experiences shall report results.

The English Distemper Investigations at Mill Hill.*

AFTER giving the record and history of the distemper investigations at Mill Hill, Professor Dr. W. Hinz comments as follows: The active propaganda carried out as a result of the work of the English Commission, perhaps against the desire of the participating veterinary surgeons, has probably raised higher expectations than the details of the Report justify. It makes some remarks on the report presented necessary. From individual communications several questions arise to be answered. From the majority of these questions and incomplete knowledge of the research up to date at Mill Hill it appears to me that the distemper problem is no further elucidated. The Commission has turned to the manufacturers concerned in order to obtain a supply of distemper serum (according to Mill Hill) and also ensure the same for Germany.

A critical judgment of the Report is easy to make from its smaller *positive* side and its greater *negative*.

As regards the *positive* findings of the Report it is frequently repeated and stressed that it is now possible to obtain a protective inoculation against distemper, ***but this is nothing new.*** As mentioned in the Report, Puntoni in 1924, and Lebailly in 1927, had already furnished proof that with formalinised organ derivatives it was possible to grant protection against canine distemper (a distemper vaccine according to Lebailly, and the English distemper commission, was produced free at the Perleberg Vaccine Works). The Mill Hill investigations confirmed this previous work, but with the limitation

* Tierarztlichen Rundschau, 1929, Nos. 3-4-5.

that it had not been sufficiently tried out in practice, so that they investigated the problem again. But an absolute success of this protective inoculation is not at all clear or certain from the Report. Also the value of the findings as regards inoculations is curtailed or stultified by the *non-inclusion* of reports from the animal owners. Any favourable judgment by the laity on this account, and through the non-inclusion of these reports, must appear optimistic. I hope in the interest of the English authors that the death of numerous dogs after, and in spite of, the Mill Hill inoculation, will not be reported, and the inoculations declared useless. Moreover, clear information is not given as to how the difficulties of virus production in a satisfactory way (amount, standardisation, dose) may be surmounted. As *positive* findings it is further stated that distemper produced in healthy dogs by transmission of infectious material is *characterised* as "an acute, feverish, infectious disease which has an incubation stage of four days and is accompanied by gastric catarrh, intestinal disturbances, inflammations of the respiratory tract and now and again nervous complications." *This declaration about the disease is nothing new.* It is only the *confirmation* of a fact as to aerogenous infection (Eckert, Jonatt, etc.) which has long been known (compare Krajewski's experiments in the year 1881). Also the irregular course of the fever is nothing new, since the scientific designation of distemper as an intermittent catarrhal and nervous infection of the dog is already known (compare Jakob and Henichen on the Incubation Stage and Initial Symptoms of Canine Distemper, Inaugural Dissertation, Berlin, 1913).

That the ferret can exhibit the similar distemper symptoms to the dog was shown by M'Gowan in 1912 and is already known. On the other hand it is new that inoculation material for the dog can be kept up from the ferret. But this method has not been continued, so that again homologous vaccination material was resorted to.

With the observation that distemper artificially produced is not such a devastating disease—except in the nervous cases on which no reports could be made, since such dogs in every case were killed—but that secondary infections brought about a bad course, I pass over the *negative* part of the English Report.

The following proposition from *The Field* appears to me especially characteristic: "When the investigations began they were rendered more difficult on account of two theories on the cause of distemper. If these had only *one* recognised cause to work on whose source, character and effect was to be investigated, then the research would have been essentially simpler!" If one assumes chiefly with Carré and his investigations that the cause of distemper's last end is an irritant

and excitant virus, then there are quite a number of theories, conditions and circumstances to keep in view in distemper investigation; quite apart from the secondary infections which in to-day's knowledge of the disease cannot simply be put aside. Also *a priori* there are not *only* two theories, but indeed *several*, if one must clear up conclusively the problem of distemper.

The literature of the disease has only been limited and imperfectly viewed in the English Report. Schroder in his monograph on distemper in 1925 mentioned 657 works which he had found serviceable in his distemper investigation. I fear that the *one-sided* view of the bacteriological side taken by the English Commission is unfavourable to the clinical aspect of the disease. If from literature it is assumed that only two causes exist for the disease many possibilities are passed over. There is no reference to the eventual protozoic or parasitic nature of the causative agent (Lentz, Sikora, Kantorowiczu, Lewy have all referred to this) and to the possibility of avitaminosis especially believed in by the Russians. Also Reinhardt and Siefried believe in avitaminosis if not as a cause, at least as a predisposing and complicating factor.

Differential diagnosis is not gone into, but needs more attention. Dr. Hinz remarks on a whole rank of ailments in the dog that he considers may be due to ascarides, e.g. catarrhal conjunctivitis, catarrhal gastro-enteritis, catarrhal pneumonia, nervous twitchings, masticating cramp, paralyses and so-called distemper pustules. Who can say with certainty to-day what distemper is, what affections are due to ascarides and what to secondary infection? Compare here also the feverish angina tonsillaris of the dog, according to Carlin.

Finally, all the *secondary infections* are too cursorily dealt with. According to the Report, distemper in its classic form is harmless " an infection is *seldom fatal*, the *prognoses favourable* " the evil enemy occurs as secondary infections. For the veterinary surgeon and dog owner the name is " sound and smoke." Most important to them are *those* forms of the disease which cause numerous *deaths* and evil after effects. On these grounds I hold it as deplorable that the material in the nervous complications was not made use of and that " *every* animal that had *nervous* attacks was *killed* with chloroform; and that on this account on the later stages of the nervous cases nothing is reported."

Summarising, it appears to me that the *positive* findings in the Mill Hill research furnish nothing new, but only confirm known facts. On the *negative* side there is a disease complex, only one narrow aspect of which, under the name of distemper, has been investigated. Further reports and, above all, *positive* confirmation from practice of beneficial results obtained from the research, are necessary.

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Reviews

Report of the National Dog Week Council. A full report of the successful work done by the above in aid of the Chair of Canine Medicine and Surgery in the Royal Veterinary College, can be obtained by any member of the profession upon request. Apply to Capt. H. E. HOBBS, Hon. Organising Secretary, 37-38, Temple Chambers, London, E.C.4.

THE following are points from the Report which was issued on the 6th of March last :

Co-operation in the scheme was effected in over 900 localities.

1,734,065 pamphlets and leaflets were distributed.

The N.D.W. Film was shown in some 500 cinemas.

Two B.B.C. stations broadcast N.D.W. Talks.

350 newspapers lent special propaganda aid.

31 Greyhound tracks co-operated in the N.D.W. Greyhound Racing Sweepstakes (281 dogs entered) which realised approximately £2,000 for the R.V.C. Fund.

The Tail-Waggers' Club inaugurated in National Dog Week had a membership of 15,785 at the end of 1928. (Membership to-day 29,242).*

63,000 letter headings were used in the 4 months of active preparation.

30,000 posters were exhibited, these involving 511 separate local " overprintings."

£5,000 was passed to the Royal Veterinary College Canine Diseases Appeal Fund.

U.S.A. is copying the scheme even to the slogan,

* The number is now over 40,000 and increasing daily. Every new member adds 2/- to the R.V.C. Funds.

Diseases of Animals in Tropical Countries. By C. R. EDMUNDS, M.R.C.V.S. and COLONEL G. K. WALKER, C.I.E., O.B.E., F.R.C.V.S. 2nd Edition. Pp. 407 ; 37 illustrations. London : Baillière, Tindall & Cox. Price 25s. (Postage : Inland, 6d. ; Abroad, 10d.)

WE recommend the second edition of this very useful handbook, which should be in the possession of every graduate of the Royal College of Veterinary Surgeons who is destined to spend some years of his life amongst the diseases of animals in the tropical countries. It is only eight years ago since Mr. Edmunds, at that time the Assistant Chief Veterinary Officer, Rhodesia, published his book entitled " Diseases of Animals in South Africa," and in bringing out a second edition of this valuable little work he has wisely changed the title to that of " Diseases of Animals in Tropical Countries," and taken in as a collaborator Colonel G. K. Walker, who is well known amongst his veterinary colleagues, not only as being of great experience in the diseases of animals in India but one whose name is second to none in enthusiasm for anything which is likely to be of benefit and value to his profession.

The text, which is divided into three parts, includes (1) the Diseases caused by Vegetable Parasites ; (2) the Diseases caused by Animal Parasites ; and (3) Diseases caused by Undetermined Viruses. Each is, as might be expected, divided into sections or chapters which include full and detailed descriptions, in many cases illustrated by photographs or

plates, of practically every disease which is likely to be met with in tropical climates.

It is not possible, nor is it necessary, to select any particular portion of the book for special description, as all is interesting, and we can, with every confidence, say that it should find its place on the book-shelf of every student and practitioner who has anything to do, either directly or indirectly, with the diseases of animals in tropical countries.

Personal

Mr. JOHN C. GRANT, M.R.C.V.S., has been appointed Lecturer in Veterinary Hygiene at the North of Scotland College of Agriculture, Aberdeen University, in the place of the late Mr. Wm. Brown.

DR. W. H. ANDREWS, Director of the Veterinary Laboratory of the Ministry of Agriculture and Fisheries, has been selected to represent the Ministry at the Pan-African Veterinary Congress to be held in South Africa this summer.

Notices

R.A.V.C. Annual Dinner.

THE Annual Dinner of Officers of the Royal Army Veterinary Corps, past and present, will be held at the Hotel Cecil on Friday, June 14th, 1929, at 8 p.m.

Those desirous of attending should inform the Honorary Secretary, R.A.V.C. Dinner, War Office, Whitehall, London, S.W.1.

Ban on the Importation of Hatching Eggs into Denmark.

THE Danish Ministry of Agriculture on February 25th, 1929, issued an Order prohibiting the importation into Denmark of eggs of all kinds for hatching. The importation of all other kinds of eggs is only permissible through importers licensed by the Danish Ministry of Agriculture.

Preparation

Lomocain. A New Local Anæsthetic.

WE have recently had the opportunity of testing the value of a new local anæsthetic which has been named Lomocain, and is much used in human dentistry. Lomocain is stated to be composed of a mixture of chloretone, cocaine, adrenalin, and normal saline solution, and is put on the market by the Wynost Manufacturing Company, Manchester. Its trial proved that it gave a satisfactory local anæsthesia, and for the horse there is very little danger in its use; but for the dog and cat one must not forget that it contains cocaine, and that when using it, the proportionate dosage of this drug must always be taken into account.